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10/608,169	06/26/2003	Thomas J. McIntyre	BA-00577	8244

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BAE SYSTEMS
PO BOX 868
NASHUA, NH 03061-0868

EXAMINER	
LAVARIAS, ARNEL C	

ART UNIT	PAPER NUMBER
2872	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,169	MCINTYRE ET AL.	
	Examiner	Art Unit	
	Arnel C. Lavarias	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _10 June 2009_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13,24 and 25_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-13,24 and 25_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendments to Claims 1, 5, 7-8, 12 in the submission filed 6/10/09 are acknowledged and accepted. In view of these amendments, the objections to the claims in Section 8 of the Office Action dated 3/10/09 are respectfully withdrawn.

2. The addition of Claims 24-25 in the submission filed 6/10/09 is acknowledged and accepted.

Response to Arguments

3. The Applicants' arguments filed 6/10/09 have been fully considered but they are not persuasive.

4. The Applicants argue that, with respect to newly amended Claims 1 and 7, as well as Claims 2-6, 8-13 which depend on Claims 1 and 7, the Rabiei et al. reference should be removed as available prior art since the invention as set forth in the instant disclosure recites logic means in the form of readout circuitry and that memory devices and microprocessors were envisioned as being part of the invention. The Examiner respectfully disagrees. After reviewing the specification and drawings of the instant application, there does not appear to be clear and sufficient disclosure of a logic means or device in the form of a readout circuit or circuitry for associating one or more frequencies of light to one or more temperatures of said photonic resonator. It is evident from the specification and drawings that element 40 is a processor or 'logic' element. However,

nowhere in the specification or drawings do the Applicants disclose that element 40 is a logic device that is particularly in the form of any type of circuitry, let alone readout circuitry. The logic device being readout circuitry is solely disclosed in an Invention Disclosure that forms a part of a declaration filed 1/6/09, but which does not form a part of the disclosure of the instant application.

5. Claims 1-13, 24-25 are now rejected as follows.

Claim Objections

6. Claims 8-12 are objected to because of the following informalities:

Claim 8 recites the limitation "...said temperature is sensed by a change in resistance of *an imbedded resistor* wherein the resistor is a metal wire." (Emphasis added). However, Claim 7 already recites an imbedded resistor for sensing the temperature (See Claim 7, line 8). It is not certain if there are two separate/unique imbedded resistors, or if the imbedded resistors recited in Claims 7 and 8 are one and the same. For purposes of examination, the Examiner has taken the imbedded resistors in Claims 7 and 8 to be one and the same. Claims 9-12 are dependent on Claim 8, and hence inherit the deficiencies of Claim 8.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-13, 24-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites the limitation of 'logic means in the form of readout circuitry for associating one or more frequencies of light to one or more temperatures of said photonic resonator'. Claim 7 similarly recites the limitation 'said logic device comprising a readout circuit'. After reviewing the specification and drawings of the instant application, there does not appear to be clear and sufficient disclosure of a logic means or device in the form of a readout circuit or circuitry for associating one or more frequencies of light to one or more temperatures of said photonic resonator. It is evident from the specification and drawings that element 40 is a 'processor' or 'logic' element. However, nowhere in the specification or drawings do the Applicants disclose that element 40 is a logic device that is particularly in the form of any type of circuitry, let alone readout circuitry.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 3-4, 6-8, 11, 24-25, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggleton et al. (U.S. Patent No. 6438277), of record, in view of Rabiei et al. (P. Rabiei, W. H. Steier, C. Zhang, L. R. Dalton, 'Polymer micro-ring filters and modulators', J. Lightwave Tech., vol. 20, no. 11, November 2002, pp. 1968-1975.), of record, and Schwindt et al. (U.S. Patent No. 6720782), of record.

Eggleton et al. discloses a photonic circuit (Fig. 1) comprising a photonic resonator in the form of a thermally sensitive optical element 11 which may be a grating, a resonance ring or a solid body resonance cavity, which is part of a waveguide circuit 10, means for heating the photonic resonator in the form of heater 12, means for measuring a

temperature of the photonic resonator 11 in the form of an imbedded temperature-dependent resistive element (12, 16) in close proximity to the photonic resonator (It is noted that the temperature-dependent resistive element is imbedded in the ambient environment, e.g. air, near the thermally sensitive optical element), means for coupling the temperature sensor to the heater in the form of a feedback circuit 14 wherein the temperature detector measures the temperature of the photonic resonator and transmits signals to a current source, in order to increase or decrease the amount of heat provided to the heater, i.e. the heater is enabled and disabled through the feedback circuit (See col. 2, line 64-col. 3, line 26), so that the temperature sensitive photonic resonator changes its wavelength response (line 64, col. 2 to line 37, col. 3), thus allowing the photonic circuit to operate as a temperature-tunable wavelength switching control device. It is noted that in order for the system to associate a measured temperature with a desired temperature (which would cause the grating to transmit or reflect the desired wavelength), it is inherent that some kind of logic is used (e.g., in the simplest form whether a measured temperature is equal or not to a set temperature). Further, it is noted that the logic utilized includes readout circuitry that also includes a microprocessor controller which has memory and processor (See for example 14 in Figures 1-2; col. 3, lines 5-26).

Eggleton et al. additionally discloses the change in the temperature being measured by measuring the resistance of wire 12, using a resistance detector 16, an ohmmeter, which in effect calculates the resistance by taking the values of a voltage and a current across the line (lines 5-11, col. 3).

Eggleton et al. discloses the invention as set forth above, but does not disclose the photonic circuit being capable of selecting a particular frequency of light in a deliberate stepped manner, or the means for measuring temperature being a Kelvin probe connection to the resistor, i.e., during the measurement of the resistance of the wire, the value of voltage is taken by using a voltmeter connected to the wire via a Kelvin connection. However, Rabiei et al. teaches a polymer micro-ring resonator device (See for example Figures 2-4), wherein the resonator device is thermally tuned to adjust the center wavelength of the resonator device (See for example Abstract; Section III). Further, such resonator device may be temperature tuned to particular temperatures to achieve particular center wavelength output, i.e. the temperature may be stepped to produce a stepped output (See for example Figure 7). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the photonic circuit of Eggleton et al., be capable of selecting a particular frequency of light in a deliberate stepped manner, as taught by Rabiei et al., to allow the resonator device to output particular, set wavelengths based on a particular application, such as in wavelength division multiplexing or demultiplexing of ITU standard wavelengths near 1550 nm. The combined teachings of Eggleton et al. and Rabiei et al. fail to teach or reasonably suggest the means for measuring temperature being a Kelvin probe connection to the resistor, i.e. during the measurement of the resistance of the wire, the value of voltage is taken by using a voltmeter connected to the wire via a Kelvin connection. However, Schwindt et al. discloses a measurement probe used in conjunction with low-current and low-voltage measurements of wafers and other

electronic test devices, wherein Schwindt et al. teaches that a voltmeter may be connected to an interconnection point which comprises a Kelvin connection (lines 26-65, col. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the means for measuring temperature be a Kelvin probe connection to the resistor, i.e. during the measurement of the resistance of the wire, the value of voltage is taken by using a voltmeter connected to the wire via a Kelvin connection, as taught by Schwindt et al., in the device of Eggleton et al. and Rabiei et al., since Kelvin connections compensate for voltage losses caused by line resistances which would otherwise cause errors in low-voltage measurements (lines 52-54, col. 1 in Schwindt et al.).

12. Claim 2, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Eggleton et al. in view of Rabiei et al. and Schwindt et al. as applied to Claims 1, 3-4, 6-8, 11, 24-25 above, and further in view of Heimala et al. (P. Heimala, P. Katila, J. Aarnio, 'Integrated optical ring resonator on silicon with thermal tuning and in situ temperature measurement', Proc. SPIE, vol. 2695, January 1996, pp. 71-77.), of record.

Eggleton et al. in view of Rabiei et al. and Schwindt et al. discloses the invention as set forth above in Claims 1, 3-4, 6-8, 11, 24-25, except for the photonic resonator, heating means, temperature measuring means, and coupling means being etched onto an integrated circuit chip. However, Heimala et al. teaches an integrated optical ring resonator device with associated thermal tuning structure (See for example Abstract; Figures 1, 3) on a silicon substrate. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the photonic resonator,

heating means, temperature measuring means, and coupling means be etched onto an integrated circuit chip, as taught by Heimala et al., in the photonic circuit of Eggleton et al. in view of Rabiei et al. and Schwindt et al., to allow for *in situ* measurement and thermal control of the resonator device by taking advantage of the close proximity of the thermal sensor and heater to the resonator ring device.

13. Claims 5, 9-10, 12, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggleton et al. in view of Rabiei et al. and Schwindt et al. as applied to Claims 1, 3-4, 6-8, 11, 24-25 above, and further in view of Koizumi et al. (U.S. Patent No. 5696543), of record.

Eggleton et al. in view of Rabiei et al. and Schwindt et al. discloses all the limitations of the above claims except for specifying that the metal wire of the temperature sensor is aluminum. Koizumi et al. discloses a temperature sensor device wherein an aluminum wire is used as temperature sensor element 6 (Fig. 1, lines 44-56, col. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an aluminum wire as a simple temperature sensor, as taught by Koizumi et al., since aluminum has very good thermal properties in terms of its thermal coefficient.

14. Claim 13, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Eggleton et al. in view of Rabiei et al. and Schwindt et al. as applied to Claims 1, 3-4, 6-8, 11, 24-25 above, and further in view of Sorin et al. (U.S. Patent No. 5982791), of record.

Eggleton et al. in view of Rabiei et al. and Schwindt et al. discloses the invention as set forth above in Claim 7, except for the measure of temperature being used as a key into

a lookup table, said lookup table comprising different frequencies selected by said resonator at different temperatures. However, the use of lookup tables to correlate one parameter to another is well known and conventional in the art. For example, Sorin et al. teaches a conventional optical system utilizing a series of fiber Bragg gratings for WDM applications (See for example Abstract; Figures 3, 6-12). In addition, Sorin et al. teaches that the operating wavelength of the fiber Bragg gratings may be adjusted by a controller (See for example 104 in Figure 7) by use of a lookup table that includes wavelength vs. temperature information for the Bragg grating (See col. 8, line 44-col. 9, line 22). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the measure of temperature be used as a key into a lookup table, said lookup table comprising different frequencies selected by said resonator at different temperatures, as taught by Sorin et al., in the process of Eggleton et al. in view of Rabiei et al. and Schwindt et al., for the purpose of providing fast, dynamic feedback and tuning of the fiber Bragg grating.

15. Claims 1, 3-4, 6-8, 11, 24-25, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggleton et al. (U.S. Patent No. 6438277), of record, in view of Rafizadeh et al. (D. Rafizadeh, J. P. Zhang, S. C. Hagness, A. Taflove, K. A. Stair, S. T. Ho, R. C. Tiberio, 'Temperature tuning of microcavity ring and disk resonators at 1.5-um', LEOS Annual Meeting Conference Proceedings, vol. 2, Nov. 10-13, 1997, pp. 162-163.) and Schwindt et al. (U.S. Patent No. 6720782), of record.

Eggleton et al. discloses a photonic circuit (Fig. 1) comprising a photonic resonator in the form of a thermally sensitive optical element 11 which may be a grating, a resonance

ring or a solid body resonance cavity, which is part of a waveguide circuit 10, means for heating the photonic resonator in the form of heater 12, means for measuring a temperature of the photonic resonator 11 in the form of an imbedded temperature-dependent resistive element (12, 16) in close proximity to the photonic resonator (It is noted that the temperature-dependent resistive element is imbedded in the ambient environment, e.g. air, near the thermally sensitive optical element), means for coupling the temperature sensor to the heater in the form of a feedback circuit 14 wherein the temperature detector measures the temperature of the photonic resonator and transmits signals to a current source, in order to increase or decrease the amount of heat provided to the heater, i.e. the heater is enabled and disabled through the feedback circuit (See col. 2, line 64-col. 3, line 26), so that the temperature sensitive photonic resonator changes its wavelength response (line 64, col. 2 to line 37, col. 3), thus allowing the photonic circuit to operate as a temperature-tunable wavelength switching control device. It is noted that in order for the system to associate a measured temperature with a desired temperature (which would cause the grating to transmit or reflect the desired wavelength), it is inherent that some kind of logic is used (e.g., in the simplest form whether a measured temperature is equal or not to a set temperature). Further, it is noted that the logic utilized includes readout circuitry that also includes a microprocessor controller which has memory and processor (See for example 14 in Figures 1-2; col. 3, lines 5-26).

Eggleton et al. additionally discloses the change in the temperature being measured by measuring the resistance of wire 12, using a resistance detector 16, an ohmmeter, which

in effect calculates the resistance by taking the values of a voltage and a current across the line (lines 5-11, col. 3).

Eggleton et al. discloses the invention as set forth above, but does not disclose the photonic circuit being capable of selecting a particular frequency of light in a deliberate stepped manner, or the means for measuring temperature being a Kelvin probe connection to the resistor, i.e., during the measurement of the resistance of the wire, the value of voltage is taken by using a voltmeter connected to the wire via a Kelvin connection. However, Rafizadeh et al. teaches conventional microcavity ring and disk resonator devices (See for example Abstract; Figures 1-2), wherein the resonator device is thermally tuned to adjust the center reflection wavelength of the resonator device (See for example Abstract; Page 162; Figure 2b). Further, such resonator device may be temperature tuned to particular temperatures to achieve particular center wavelength output, i.e. the temperature may be stepped to produce a stepped output (See for example Figure 2b, wherein the center reflectivity is measured every 10 degrees C). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the photonic circuit of Eggleton et al., be capable of selecting a particular frequency of light in a deliberate stepped manner, as taught by Rafizadeh et al., to allow the resonator device to output particular, set wavelengths based on a particular application, such as in widely tunable wavelength filtering in the near infrared wavelength region. The combined teachings of Eggleton et al. and Rafizadeh et al. fail to teach or reasonably suggest the means for measuring temperature being a Kelvin probe connection to the resistor, i.e. during the measurement of the resistance of the wire, the

value of voltage is taken by using a voltmeter connected to the wire via a Kelvin connection. However, Schwindt et al. discloses a measurement probe used in conjunction with low-current and low-voltage measurements of wafers and other electronic test devices, wherein Schwindt et al. teaches that a voltmeter may be connected to an interconnection point which comprises a Kelvin connection (lines 26-65, col. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the means for measuring temperature be a Kelvin probe connection to the resistor, i.e. during the measurement of the resistance of the wire, the value of voltage is taken by using a voltmeter connected to the wire via a Kelvin connection, as taught by Schwindt et al., in the device of Eggleton et al. and Rafizadeh et al., since Kelvin connections compensate for voltage losses caused by line resistances which would otherwise cause errors in low-voltage measurements (lines 52-54, col. 1 in Schwindt et al.).

16. Claim 2, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Eggleton et al. in view of Rafizadeh et al. and Schwindt et al. as applied to Claims 1, 3-4, 6-8, 11, 24-25 above, and further in view of Heimala et al. (P. Heimala, P. Katila, J. Aarnio, 'Integrated optical ring resonator on silicon with thermal tuning and in situ temperature measurement', Proc. SPIE, vol. 2695, January 1996, pp. 71-77.), of record.

Eggleton et al. in view of Rafizadeh et al. and Schwindt et al. discloses the invention as set forth above in Claims 1, 3-4, 6-8, 11, 24-25, except for the photonic resonator, heating means, temperature measuring means, and coupling means being etched onto an integrated circuit chip. However, Heimala et al. teaches an integrated optical ring

resonator device with associated thermal tuning structure (See for example Abstract; Figures 1, 3) on a silicon substrate. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the photonic resonator, heating means, temperature measuring means, and coupling means be etched onto an integrated circuit chip, as taught by Heimala et al., in the photonic circuit of Eggleton et al. in view of Rafizadeh et al. and Schwindt et al., to allow for *in situ* measurement and thermal control of the resonator device by taking advantage of the close proximity of the thermal sensor and heater to the resonator ring device.

17. Claims 5, 9-10, 12, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggleton et al. in view of Rafizadeh et al. and Schwindt et al. as applied to Claims 1, 3-4, 6-8, 11, 24-25 above, and further in view of Koizumi et al. (U.S. Patent No. 5696543), of record.

Eggleton et al. in view of Rafizadeh et al. and Schwindt et al. discloses all the limitations of the above claims except for specifying that the metal wire of the temperature sensor is aluminum. Koizumi et al. discloses a temperature sensor device wherein an aluminum wire is used as temperature sensor element 6 (Fig. 1, lines 44-56, col. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an aluminum wire as a simple temperature sensor, as taught by Koizumi et al., since aluminum has very good thermal properties in terms of its thermal coefficient.

18. Claim 13, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Eggleton et al. in view of Rafizadeh et al. and Schwindt et al. as applied to Claims 1,

3-4, 6-8, 11, 24-25 above, and further in view of Sorin et al. (U.S. Patent No. 5982791), of record.

Eggleton et al. in view of Rafizadeh et al. and Schwindt et al. discloses the invention as set forth above in Claim 7, except for the measure of temperature being used as a key into a lookup table, said lookup table comprising different frequencies selected by said resonator at different temperatures. However, the use of lookup tables to correlate one parameter to another is well known and conventional in the art. For example, Sorin et al. teaches a conventional optical system utilizing a series of fiber Bragg gratings for WDM applications (See for example Abstract; Figures 3, 6-12). In addition, Sorin et al. teaches that the operating wavelength of the fiber Bragg gratings may be adjusted by a controller (See for example 104 in Figure 7) by use of a lookup table that includes wavelength vs. temperature information for the Bragg grating (See col. 8, line 44-col. 9, line 22). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the measure of temperature be used as a key into a lookup table, said lookup table comprising different frequencies selected by said resonator at different temperatures, as taught by Sorin et al., in the process of Eggleton et al. in view of Rafizadeh et al. and Schwindt et al., for the purpose of providing fast, dynamic feedback and tuning of the fiber Bragg grating.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 10:00 AM - 6:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias
Primary Examiner
Group Art Unit 2872
8/18/09

/Arnel C. Lavarias/
Primary Examiner, Art Unit 2872